



*IBM WebSphere Business
Modeler V6.2: Process
Simulation and Analysis*

(Course code WB286 / VB286)

**Lab Setup Guide for
Classroom Delivery**

ERC 1.0

Authorized



Training

WebSphere Education

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Purpose

This **Lab Setup Guide** provides directions for installing, preparing, and verifying the lab hardware and software in preparation for conducting a class of course WB286 / VB286.

The Requirements sections of this document may also be used to determine the specific hardware and software needed to conduct a class.

Lab setup guide overview

The purpose of this lab setup guide is to assist the classroom preparer in setting up the WB286 / VB286 classroom lab environment. This guide is separated into two parts:

- “Setting up the lab environment using a VMware image” on page 3
- “Installing the lab environment manually (non-VMware)” on page 17

The classroom preparer only needs to complete one of the above parts to complete the classroom lab environment.



Important

It is strongly recommended that every attempt be made to use the VMware image. If a manual installation is required, a WebSphere Education representative should be contacted beforehand to discuss this solution.

Keep in mind that the instructor will not have sufficient time to manually install the software needed for the lab exercises if the classroom is not properly prepared for the first day.

Setting up the lab environment using a VMware image

For an instructor-led training (ILT) classroom delivery, the classroom preparer is responsible for preparing:

Instructor or student workstation	How many workstations	Per how many students	Notes
instructor	one	n/a	
student	one	N	One computer for N students
student			

Each student workstation and the instructor workstation will host a VMware virtual machine, pre-configured for the lab exercises.

The following tables list the hardware, software, and network requirements needed to set up a lab to support course WB286 / VB286.

Hardware requirements

This section lists the recommended hardware requirements for a student workstation.

Tier code	Processor type and speed	Minimum memory	Minimum free hard disk space	Display resolution
65	Intel Pentium 4 3.0 GHz or faster	3.0 GB	40 GB	1024 x 768 pixels



Important

Ensure all nonessential software installed on the machine is set to *not* start automatically. The above memory requirement assumes the host operating system requires no more than 512 MB memory and all of the remaining memory will be available to the VMware image.

If you are unsure whether your classroom environment meets the specified hardware requirements, **contact your WebSphere Education representative** immediately. The performance of the lab exercises will be severely affected if the classroom systems do not meet the stated requirements.

Software requirements

This section lists the software needed to prepare the lab environment. When preparing for a class, be sure you have the correct number of licensed copies of any non-IBM software.

Software product	Version	Licensing requirement
Microsoft Windows XP	Service Pack 2 or greater	Site must provide sufficient licenses for private offerings.
VMware Player	2.0.5 or later	Site must satisfy the end-user license agreement.



Important

Ensure all nonessential software installed on the machine is set to *not* start automatically. If non-essential software is running, performance problems may be caused because there may be insufficient memory available to support both the host operating system and VMware image.

VMware Player 2.0.5 or later is supported.

Administrator-level privileges are required to install the VMware Player software.

Network requirements

This section specifies the network requirements for the lab environment.

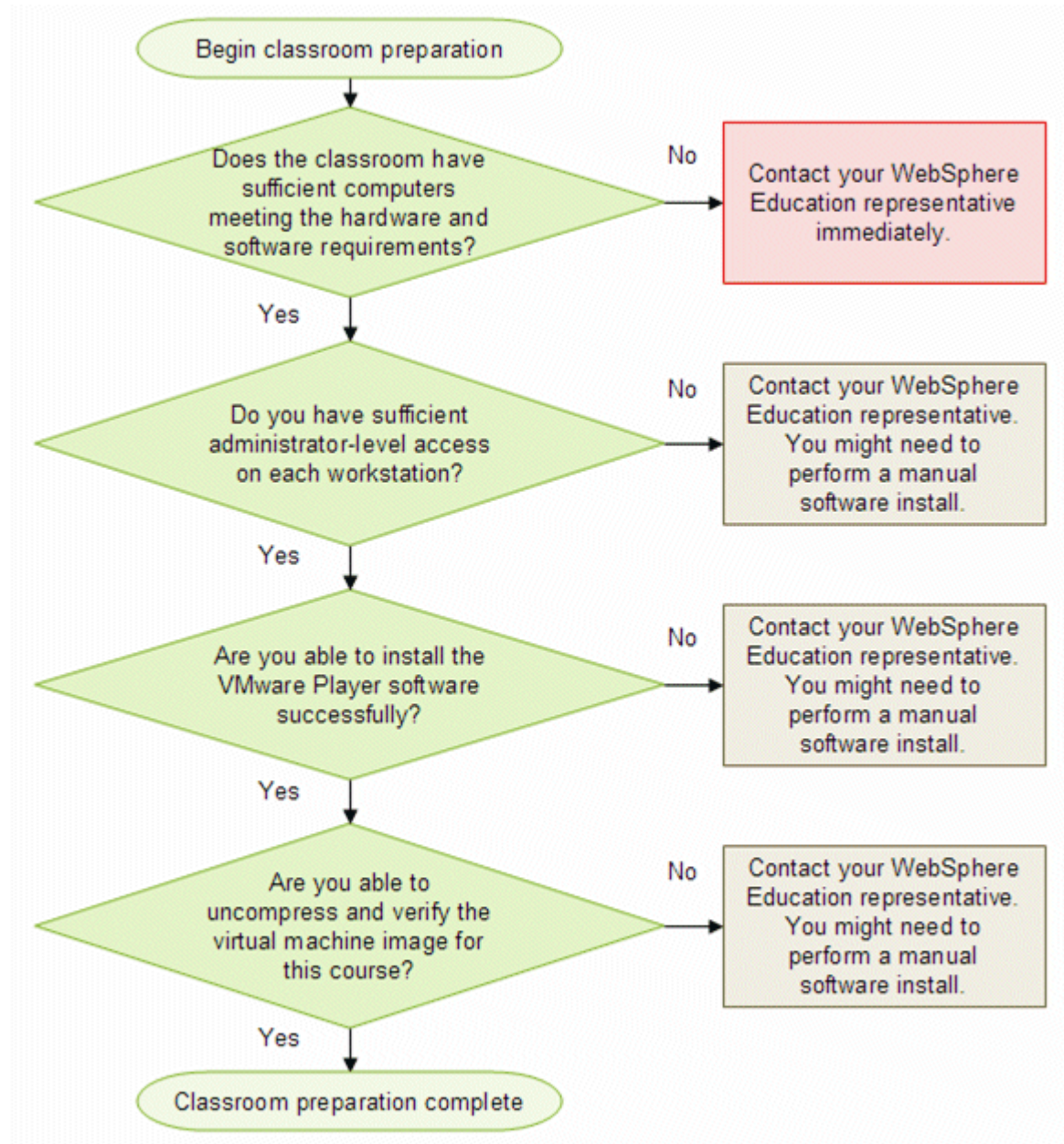
Network connectivity required	No
Internet connectivity required	No
DHCP required	No
Fixed IP addresses required	No

Skills required to set up the lab

The following specialized skills are required by the classroom preparer to set up the lab environment:

- Install Windows applications on Microsoft Windows XP
- Verify user access rights on Microsoft Windows XP
- Configure network adapter drivers on Microsoft Windows XP

Classroom preparation process overview



Workstation setup overview

The following classroom setup instructions are separated into the following sections:

- Section 1. Preparing the base workstations: This section describes how to configure the physical (host) student machines with the proper operating system, network, and software settings.
- Section 2. Installing VMware Player: This section describes how to download, install, and configure VMware Player.

- Section 3. Installing the VMware images: Describes how to uncompress, load, and verify the virtual (guest) student computing environment. The guest system runs as a virtual computer on the physical, host system.



Note

If you need additional information on virtual machines, see “Appendix. Introduction to virtual machines” on page 23 which provides an introduction to the concept of virtual machines and the VMware player application.

Section 1: Preparing the base workstations

General lab environment information

The ideal lab environment is to have all student machines connected to the same LAN with TCP/IP correctly configured so that machines can connect to each other using their host names.

If no LAN adapter is available, the Microsoft Loopback Adapter should be configured as the default LAN adapter with a private TCP/IP address so that the TCP/IP stack will be active.

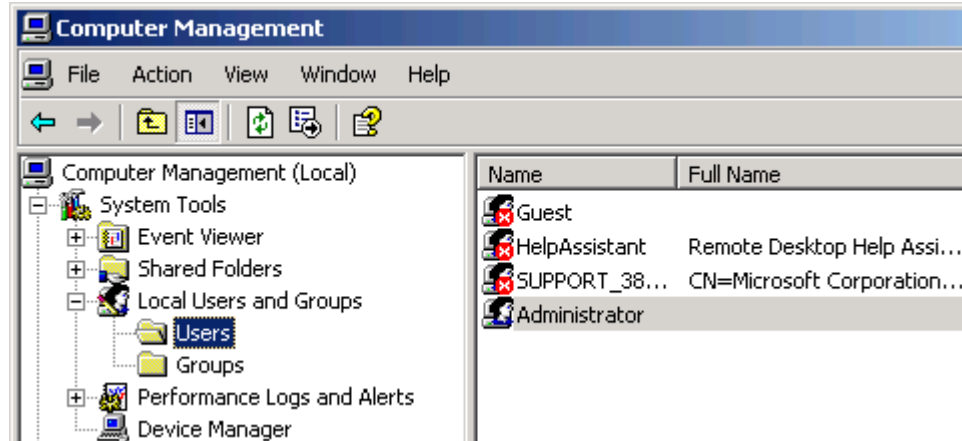
Refer to the Microsoft Knowledge Base for information on how to configure this option.

Operating system setup instructions

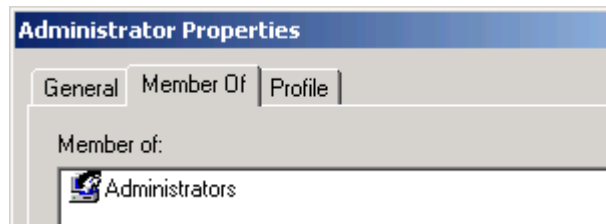
Ensure the operating system is set up correctly:

- ___ 1. Ensure the operating system listed in the software requirements section is installed.
- ___ 2. Ensure the local user account has sufficient administrator-level privileges to install the VMware Player application.
 - ___ a. From the Windows Start menu, open **Control Panel > Administrative Tools > Computer Management**.
 - ___ b. In the Computer Management console, expand **Computer Management (Local) > System Tools > Local Users and Groups > Users**.

- ___ c. Double-click the user account that is currently logged in.



- ___ d. In the user properties window, switch to the **Member Of** tab.
- ___ e. Verify that the currently logged in user account is a member of an administrator-level user group.



- ___ f. Close the user properties window and the Computer Management console.



Note

Contact the computer network administrator to determine the user access rights available to students on each classroom computer. Most corporations enforce network domain policies to restrict access privileges on each individual desktop computer. You might have to request administrator-level access in order to install additional software on each computer.

Keep in mind that local administrator-level access will be overridden by group security policies on the domain controller.

For more information, review the Windows XP Professional product documentation on user accounts:

http://www.microsoft.com/resources/documentation/windows/xp/all/proddocs/en-us/usercpl_overview.mspx

Section 2: Installing VMware Player

Perform the following steps to download, install, and configure VMware Player on each student and instructor workstation.



Note

WebSphere Education courses require **VMware Player version 2.0.5** or later.

- ___ 1. Download the VMware Player software from the VMware product page. The steps below are for version 2.0.5.
 - ___ a. Open a new Web browser window.
 - ___ b. Navigate to Web address <http://www.vmware.com/products/player>.
 - ___ c. In the main product page, click the **Download** link.
 - ___ d. Click the **Download** link for **VMware Player 2.0.5, build 109488**.

VMware Player 2.5
Latest Version: 2.5 | 2008/09/23 | Build: 118166 | [Release Notes](#)
[Download Now](#)

[Version History](#) [Open Source](#)

VMware Player 2.0.5
Version: 2.0.5 | 2008/08/28 | Build: 109488
[Download](#) | [Release Notes](#)

VMware Player 2.0.4
Version: 2.0.4 | 2008/05/29 | Build: 93057
[Download](#) | [Release Notes](#)

- ___ e. Review the end-user license agreement. If you do not accept the license, you cannot proceed with the lab setup.

- ___ f. Under Version History, scroll down to **VMware Player 2.0.5** and select the **Download for Windows** link.

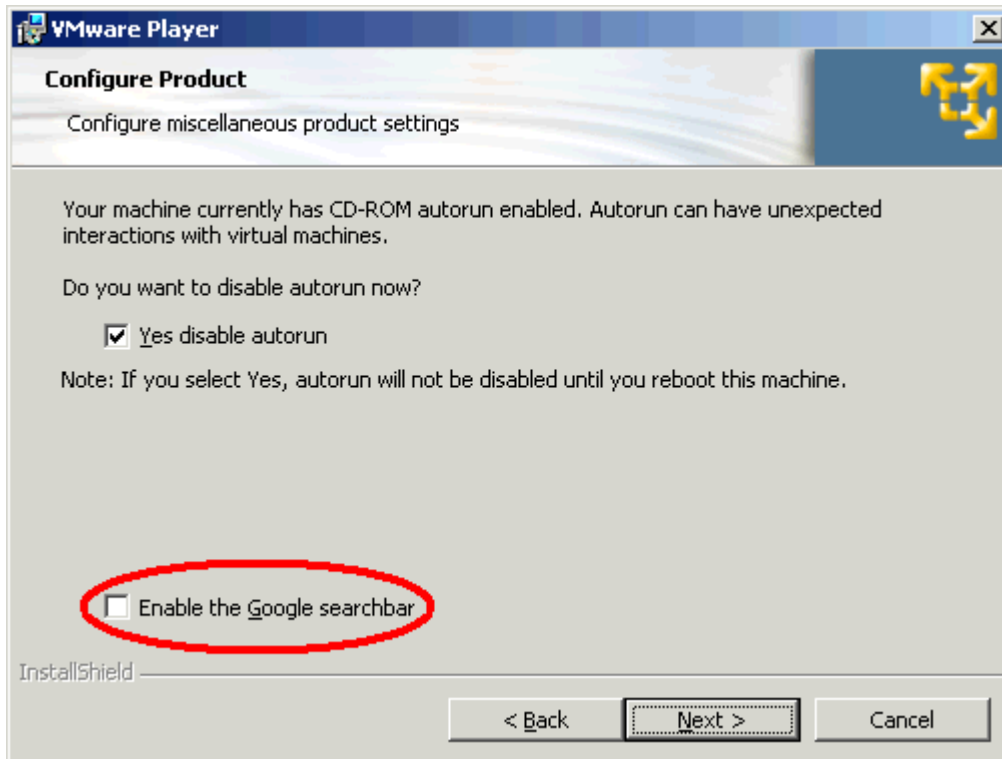


- ___ g. Download a copy of the product to each student workstation and instructor machine.
- ___ 2. Install the VMware Player application. The steps below are for version 2.0.5. There may be differences for later versions.
- ___ a. Double-click the **VMware-player-2.0.5-109488.exe** self-extracting archive.
- ___ b. When the VMware Player installation wizard appears, click **Next**.



- ___ c. Review the end-user license agreement. If you do not accept the license, you cannot proceed with the lab setup.

- ___ d. Leave the destination folder to the default setting of **C:\Program Files\VMware\VMware Player** and click **Next**.
- ___ e. Leave the configure shortcut settings to the default of **Desktop, Start Menu Programs folder**, and **Quick Launch toolbar**. Click **Next**.
- ___ f. In the configure product page, clear the **Enable the Google searchbar** check box. Click **Next**.

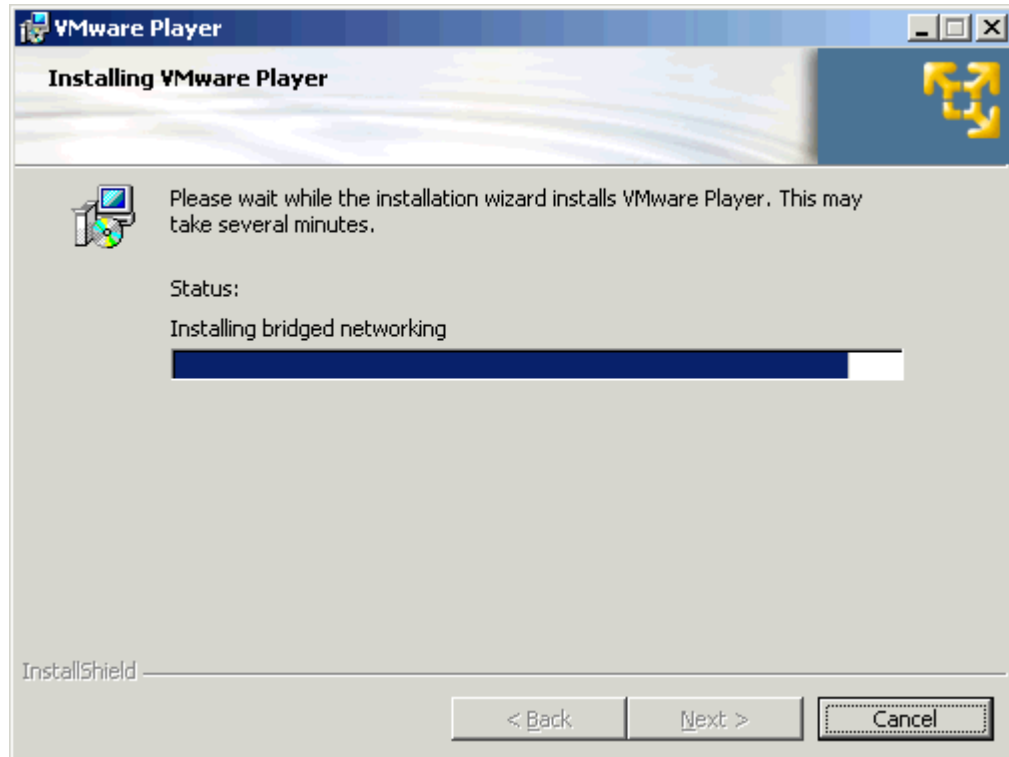


- ___ g. Click **Install** to proceed with the installation. The installation process might take 5–10 minutes to complete.
- ___ h. Verify that no error messages appear during product installation.
- ___ i. Click **Finish** to close the installer.



Information

VMware Player installs additional network drivers in order to perform network address translation (NAT) and bridged networking. If you do not have administrator-level privileges on the current Microsoft Windows operating system, the installation might fail at this point.



Section 3: Installing the VMware images

This course uses a preconfigured computer environment, supplied by IBM WebSphere Education. The VMware virtual machine, also known as a virtual machine image, represents a self-contained computer running on your student workstation. This configuration eliminates the need for your classroom preparer to install course-specific software.



Note

For a quick introduction to VMware virtual machines, consult “Appendix. Introduction to virtual machines” on page 23.

Image information

The following section provides information about the VMware image, including system requirements and logon information.

To download the VMware image for this course, go to <http://catalog.atlanta.ibm.com> and search by course code or title.

Image setting	Value
Image name	WB282_VB282_16MAR09_XP_Modeler62_erc1.0.zip
Size of uncompressed image	11 GB
Operating system installed	Microsoft Windows XP
Additional software required	No
Network access requirements	Isolated (no network access)
Network IP configuration	Not applicable
Network bandwidth requirements	Not applicable
Primary account username	Administrator
Primary account password	web1sphere

VMware virtual machine setup instructions

Perform the following steps to uncompress the VMware virtual machine image onto each student workstation. As part of the course materials, you should have received a set of CD-ROM discs containing the virtual machine image.

- ___ 1. Extract the virtual machine files onto the student workstation.
 - ___ a. Insert the first virtual machine image CD into the CD-ROM drive.
 - ___ b. Run the setup application on the root of the CD-ROM disc.
 - ___ c. When prompted, accept the default directory for the destination of the image files on the hard drive.
 - ___ d. Start the application to uncompress the virtual machine image files onto the hard drive.
- ___ 2. When prompted, remove the current CD-ROM disc and insert the next virtual machine image CD in sequence.
- ___ 3. At the conclusion of this process, the VMware image should be built on the C:\vmwareimages directory.

Image customization and environment settings

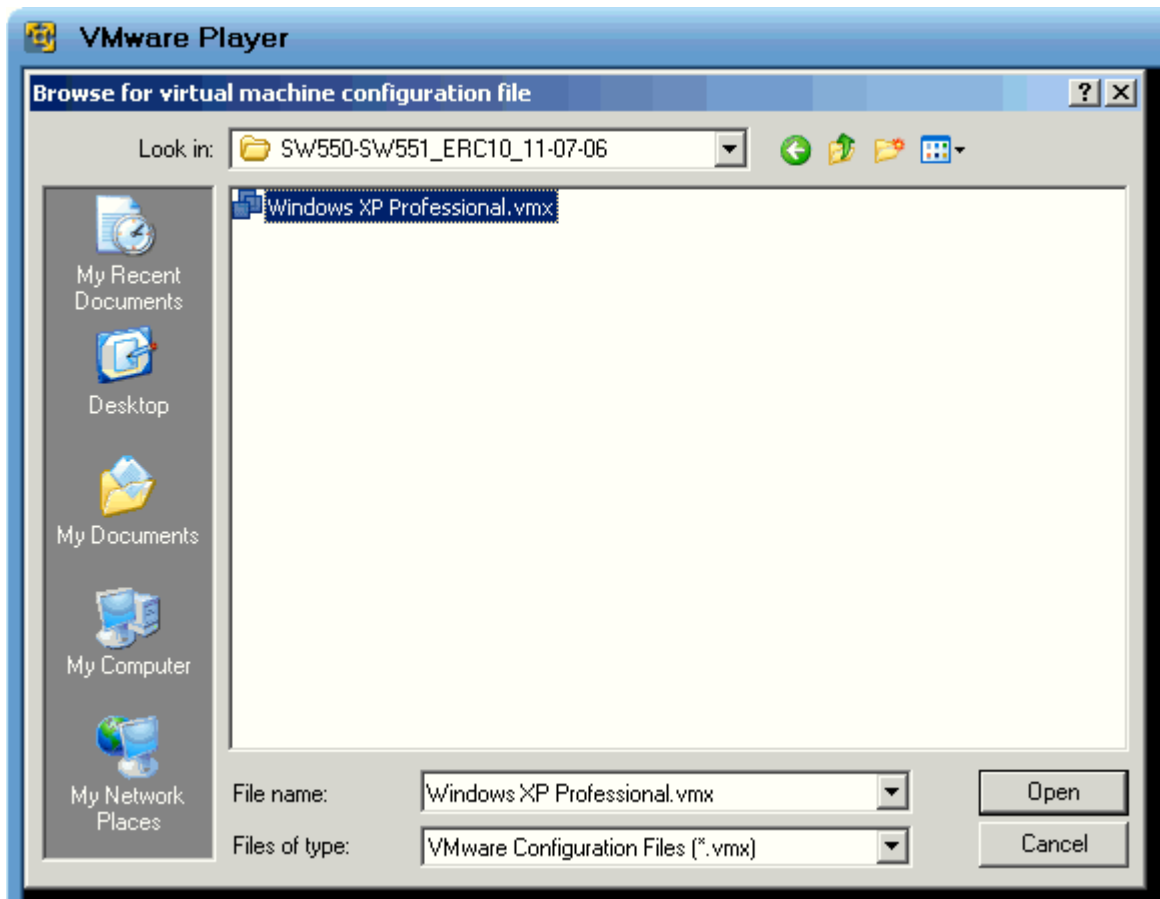
Perform the following steps after loading the VMware virtual machine image onto each workstation.

No customization steps required.

Verification procedures

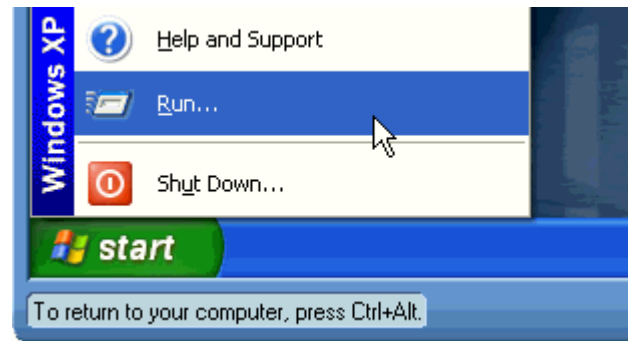
Use the following information to verify the installation and configurations of the student and instructor systems.

- ___ 1. Start the virtual machine with VMware Player.
 - ___ a. From the Windows Start menu, select **Programs > VMware > VMware Player**.
 - ___ b. In the **Browse for virtual machine configuration file** dialog, navigate to the directory where you had uncompressed the virtual machine files. (If you selected the default directory, then it will be C:\vmwareimages).
 - ___ c. Select the **.vmx** file and click **Open**.



- ___ d. Wait until the Windows logon screen appears in the virtual machine.
 - ___ e. Log on to Windows using the following:
 - Username: **Administrator**
 - Password: **web1sphere**
 - ___ f. Make sure that the Windows desktop appears without any errors.
- ___ 2. Verify that the virtual machine has been assigned a proper IP address.

- ___ a. Within the virtual machine, select **Run** from the Windows Start menu. Make sure that you are performing this task within the virtual machine (guest system) and not the physical machine (host system).



- ___ b. In the Run dialog, enter: `cmd`
- ___ c. Click **OK** to continue.
- ___ d. When the Windows command prompt appears, type `ipconfig` to list all network devices configured within the virtual machine. Press Enter.
- ___ e. Verify that the **Local Area Connection** Ethernet adapter has received an IP address.
- For virtual machines using **Network address translation**, the IP address should be in the private IP range of 192.168.x.x
 - For virtual machines using **Bridged networking**, the IP address should be in the same range as the physical machine (host system).

```
C:\WINDOWS\system32\cmd.exe

C:\Documents and Settings\student>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : home.ibm.com
    IP Address. . . . .               : 9.16.17.100
    Subnet Mask . . . . .            : 255.255.255.0
    Default Gateway . . . . .        : 9.16.17.1

C:\Documents and Settings\student>_
```

Verifying the input language and keyboard layout

Perform the following steps to ensure the virtual machine is set to the correct input language and keyboard layout.

- ___ 1. Click **Start > Control Panel > Regional and Language Options**.
- ___ 2. Select the **Languages** tab

- ___ 3. Click **Details**.
- ___ 4. Verify the default input language corresponds to your keyboard layout.
- ___ 5. If required, change the default input language and keyboard layout to the correct values.

Optimizing the memory allocation setting for the virtual machine

If possible, you should increase the memory allocation of the virtual machine to enhance performance. To do so, perform the following steps:

- ___ 1. In the VMware Player menu bar, select **Player > Troubleshoot > Change Memory Allocation**.
- ___ 2. In the Memory dialog, adjust the amount of memory allocated to the virtual machine based on the total amount of physical memory available. For example, if you have 3 GB of physical memory, allocating 2 GB to the virtual machine is recommended.
- ___ 3. Click **OK** to accept the changes.
- ___ 4. VMware Player reminds you that the memory allocation settings take effect upon system reset. Click **OK** to close the dialog.
- ___ 5. Reset the virtual machine to apply the memory allocation changes. In the VMware Player menu bar, select **Player > Troubleshoot > Reset**.



Hint

To access Windows Task Manager from the VMware image, press **Ctrl + Alt + Insert**.



Stop

This completes the installation and customization of the lab environment using a VMware image.

Installing the lab environment manually (non-VMware)

The following section provides information on how to manually create the lab environment that is needed to conduct the lab exercises in this course.

Perform the manual lab setup under the following conditions only:

- You are not allowed to install the VMware Player.
- You tried to perform the lab setup using the VMware image and you were unable to successfully install the VMware Player software on the student or instructor workstation.
- Verification of the virtual machine image settings, including network connectivity, failed.



Important

Contact your WebSphere Education representative before attempting to perform these steps.

For an instructor-led training (ILT) classroom delivery, the classroom preparer is responsible for preparing:

Instructor or student workstation	How many workstations	Per how many students	Notes
instructor	one	n/a	
student	one	N	One computer for N students
student			

The following tables list the hardware, software, and network requirements needed to set up a lab to support course WB286 / VB286.

Hardware requirements

This section lists the recommended hardware requirements for a student workstation.

Tier code	Processor type and speed	Minimum memory	Minimum free hard disk space	Display resolution
65	Intel Pentium 4 3.0 GHz or faster	3.0 GB	40 GB	1024 x 768 pixels



Important

If you are unsure whether your classroom environment meets the specified hardware requirements, **contact your WebSphere Education representative** immediately. The

performance of the lab exercises will be severely affected if the classroom systems do not meet the stated requirements.

Software requirements

This section lists the software needed to prepare the student lab environments. When preparing for a class, be sure to have the correct number of copies of any non-IBM software.

Software product	Version	Licensing requirement
Microsoft Windows XP	Service Pack 2 or greater	Site must provide sufficient licenses for private offerings.
IBM WebSphere Business Modeler Advanced	V6.2	Site must satisfy the end-user license agreement.
IBM WebSphere Business Modeler Publishing Server	V6.2	Site must satisfy the end-user license agreement.
IBM Lotus Form Designer	V3.5	Site must satisfy the end-user license agreement.
IBM Lotus Form Viewer	V3.5	Site must satisfy the end-user license agreement.
IBM Rational RequisitePro	V7.0.1	Site must satisfy the end-user license agreement.
IBM Rational ClearCase LT	V7.0.1	Site must satisfy the end-user license agreement.
Internet Explorer	V6 SP2 or later	Site must satisfy the end-user license agreement.

Network requirements

This section specifies the network requirements for the lab environment.

Network connectivity required	No
Internet connectivity required	No
DHCP required	No
Fixed IP addresses required	No

Skills required to set up the lab

The following specialized skills are required by the classroom preparer to set up the lab environment:

- Install Windows applications on Microsoft Windows XP
- Verify user access rights on Microsoft Windows XP

- Configure network adapter drivers on Microsoft Windows XP

Setup instructions

General lab environment information

The ideal lab environment is to have all student machines connected to the same LAN with TCP/IP correctly configured so that machines can connect to each other using their host names.

If no LAN adapter is available, the Microsoft Loopback Adapter should be configured as the default LAN adapter with a private TCP/IP address so that the TCP/IP stack will be active.

Refer to the Microsoft Knowledge Base for information on how to configure this option.

Operating system setup instructions

Perform the following steps to install and customize the base operating system.

- ___ 1. No customization is required for base operating system

Software setup instructions

Perform the following steps to install and customize software that is required in addition to the operating system.

- ___ 1. Extract the WB286_ERC1.0_LABFILES.zip file onto C:\ drive. Unzipping of this file may take up to 5 minutes. This file contains lab files necessary to perform hands-on lab exercises during the course.
- ___ 2. You will need to copy the following folders into the C:\ drive
 - Workspaces
 - Student Files
 - Additional Materials

Part 1: Installing WebSphere Business Modeler V6.2 Advanced Edition

- ___ 1. Log onto Windows as Administrator or log on using an account that is a member of the Administrators group.
- ___ 2. Download and extract the installation files for WebSphere Business Modeler Advanced Edition or insert the installation media. At the time of this writing, the Modeler download was an archive file named ModelerAdvanced62_win.zip.
- ___ 3. Double-click launchpad.exe to start the installation launchpad.
- ___ 4. Click the **Install IBM WebSphere Business Modeler Advanced V6.2** link.
- ___ 5. Leave the installation package for **IBM WebSphere Business Modeler Advanced** selected and click **Next**.

- ___ 6. At the program license agreement panel, select **I accept the terms in the license agreements** and click **Next**.
- ___ 7. At the install packages panel, leave **Create a new package group** selected, change the **Installation Directory** to C:\IBM\WBModeler62 and click **Next**.
- ___ 8. At the features panel, leave the following default options selected for **WebSphere Business Modeler Advanced** and click **Next**.
- ___ 9. At the summary information panel, review the target locations and features and click **Install**.
- ___ 10. When the installation is complete, select **None** for the option: **Which of the following packages would you like to start?**
- ___ 11. Click **Finish** to exit the Installation Manager and close the launchpad.

Verification procedures

Use the following information to verify the installation and configuration of the student and instructor lab environments.

- ___ 1. Verify that you can open each image with the VMware Player.
 - ___ a. Double-click the VMware Player shortcut, **Shortcut to Windows XP Professional.vmx** on the desktop.
 - ___ b. Log in using the following ID and password:
User ID: Administrator
Password: web1sphere
 - ___ c. After you verify the image, exit the virtual machine by selecting **Player > Exit**.



Stop

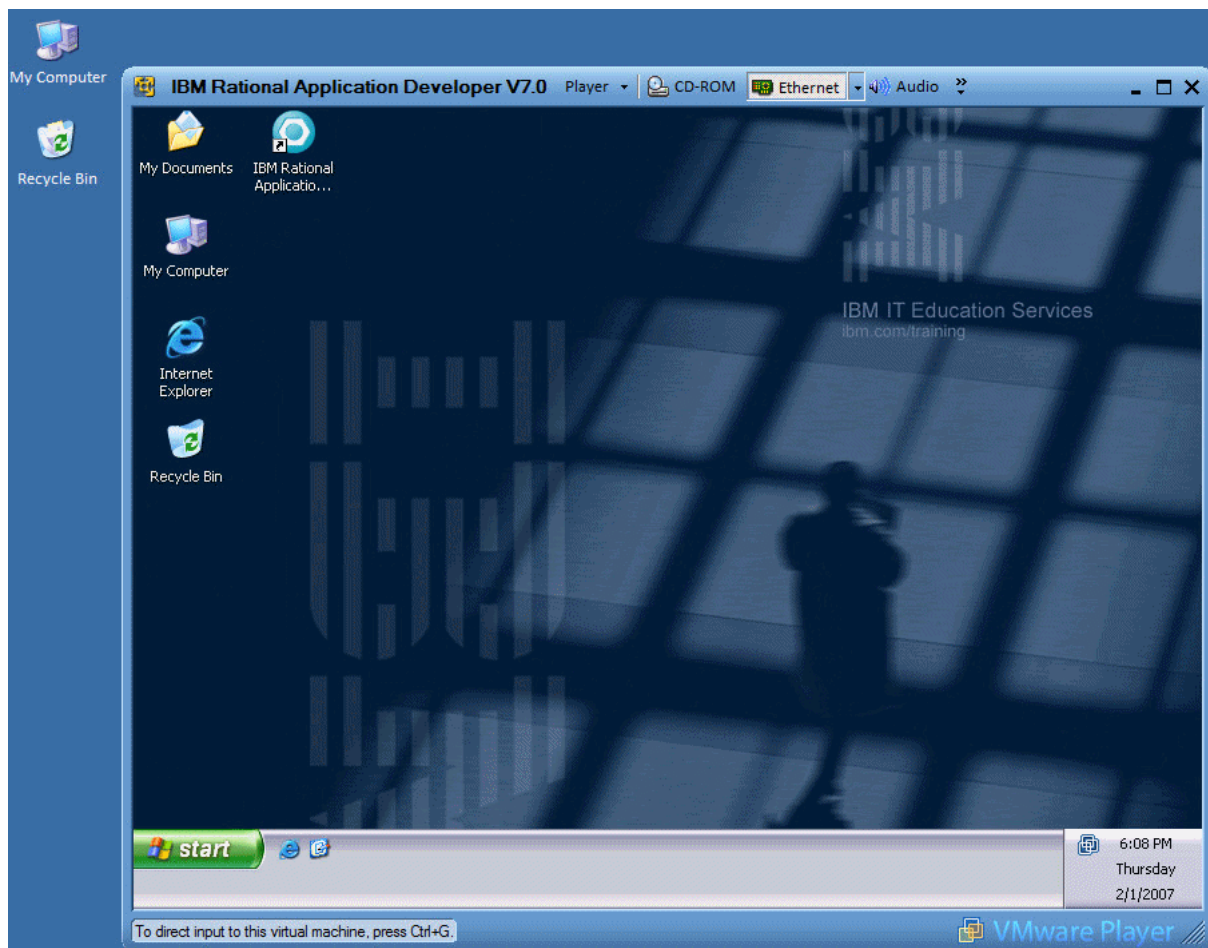
This completes the manual installation and customization of the lab environment (non-VMware image).

Appendix. Introduction to virtual machines

The following section provides an introduction to the concept of virtual machines and the VMware Player application.

Preface

Virtual machines provide a separate, isolated computing environment as a computer program on your desktop. The virtual machine itself represents a complete computer system: when you power on the virtual machine, it starts up a virtual computer with its own operating system. In effect, virtual machines allow you to operate two or more computers on a single computer workstation.



Virtual machines depend on a technology known as *virtualization*. Unlike *emulation*, where hardware components such as the video card or processor are mimicked by software, virtualization maps the actual hardware resources to the virtual machine environment. This scheme ensures a clean separation between the virtual machine and the real computing system, while retaining most of the speed of the application as if it was running natively on the actual computer system.

Virtual machines in the classroom

Virtual machines are ideal for quickly preparing a set of computer workstations with identical software configuration. Instead of completing a lengthy set of installation instructions, the classroom preparer only needs to uncompress a set of data files that define the virtual machine itself.

Running virtual machines with the VMware Player application

There are several companies that provide virtualization software. WebSphere Education is currently using VMware applications to create, manage, and run virtual machines in its classes.

To reduce the software licensing costs to business partners, WebSphere Education courses use a free-of-charge solution, VMware Player. The only requirement placed upon the classroom preparer is the end-user license agreement for the VMware Player software. If the preparer does not agree to the EULA terms, contact the WebSphere Education engagement manager to discuss alternatives to the VMware application.

Additional requirements with VMware Player

In order to map the existing hardware devices to the virtual machine, the VMware Player application requires direct access to the system resources, such as the network adapter.

Listed below are common issues associated with running a classroom environment with virtual machines and VMware Player software.

- The student workstation needs to support two instances of the operating system, one for the physical (host) machine and one for the virtual machine (guest). Such a configuration places additional burden on memory and processor resources.
- The VMware Player application relies on custom network drivers. The classroom preparer must have administrator-level privileges within the Windows operating system in order to install the software.
- In **bridged** networking mode, a running copy of the virtual machine (guest) appears as a real computer on the network. Certain classrooms with strict computer network security policies might not allow unauthorized hosts to appear on the network.

If any of these issues arise during the lab setup process, contact the WebSphere Education engagement manager to discuss workarounds.

